

Scientific Method Review

1. The scientific method is a process for experimentation that is used to explore observations and answer questions. What is the first step in completing the scientific method?

- A: project experimentation
- B: hypothesis
- C: problem
- D: curiosity

2. The second step to the scientific method is to state the "problem", the scientific question to be solved. What is one requirement that needs to be fulfilled in order for the "problem" to be valid?

- A: It needs to be a problem that has a number answer.
- B: It needs to be a problem that can be solved experimentally.
- C: It needs to be a problem that has a yes or no answer.

3. What are the five steps of the scientific method in order from first to last?

- A: Curiosity, problem, hypothesis, project experimentation, conclusion
- B: problem, project experimentation, conclusion, hypothesis, curiosity
- C: problem, curiosity, project experimentation, hypothesis, conclusion

4. Which of the following are the requirements when creating a hypothesis for an experiment? Check ALL that apply.

- A: A hypothesis is based on knowledge and research.
- B: A hypothesis is an idea about the solution to a problem.
- C: A hypothesis is created after an experiment is completed.
- D: A hypothesis should predict about how two factors are related.

5. In the conclusion of an experiment, can you leave out experimental results that do not support your hypothesis?

- A: No
- B: Yes

6. True or False- If False Make It True

- Scientists make their conclusions during the experiment

7. Label each question as **experimental** or **fact finding**

- Will water boil faster than soda?
- What will happen if a plant is kept in a closet?
- Which planets are known as terrestrial?
- Which element is found the most inside the Earth?
- Which color shirt will fade the most after being washed ten times?

8. What does the question do in the scientific method?
- A) Provides background information on the topic
 - B) Allows a scientist to reflect on the experiment
 - C) Sets the purpose of the experiment
 - D) Helps organize the data
9. Why do scientists perform research before the experiment?
- A) To help form a hypothesis
 - B) To help know what materials to use
 - C) To understand the characteristics of the topic
 - D) All of the above
 - E) None of the above
10. Label each as a ***guess or a hypothesis***
- I think that the cotton will stretch further than the silk
 - I think that the boat will sink because iron is denser than water
 - I think that chocolate ice cream will have the most sugar because I like the taste
 - I think that the sword will bend when heated because I saw steel bend when heated on TV
11. The reason for a hypothesis is...
- A) To know the answer before the experiment
 - B) To structure/design the experiment
 - C) To show that the scientists did research
 - D) Create some fun for the experiment
 - E) To help create the question that will be investigated
12. What is not true about the procedure?
- A) Should be listed in chronological order
 - B) Should be written so others could follow
 - C) Also known as the process
 - D) Describes what happens in the experiment
 - E) Is based on the question and hypothesis
13. Sources of Error in an Experiment...
- A) Are when the hypothesis was wrong
 - B) Are when nothing happens in an experiment
 - C) Are when possible mistakes are made by the scientist
 - D) All of the above